METHODS OF FORMING AN ALD-INHIBITING LAYER USING A SELF-ASSEMBLED MONOLAYER

ABSTRACT

Methods of forming an ALD-inhibiting layer using a layer of SAM molecules include providing a metalized substrate having a metal M and an oxide layer of the metal M. A reduction gas that includes a metal Q is used to reduce the oxide layer of the metal M, leaving a layer of form of $M+MQ_yO_x$ atop the metal M. The SAM molecules are provided as a vapor and form an ALD-inhibiting SAM layer on the $M+MQ_yO_x$ layer. Methods of performing S-ALD using the ALD-inhibiting SAM layer are also disclosed.

FIG. 4